IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Holger STENZEL — Examiner: Magali P. Theodore

Serial No.: 10/593,060 — Group Art Unit: 1795

Filed: July 23, 2008

Title: PROCESS FOR THE COEXTRUSION OF MELT STREAMS OF DIFFERENT COMPOSITION

BRIEF ON APPEAL UNDER 37 C.F.R. §41.37

MAIL STOP: APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the Notice of Appeal filed August 13, 2010, attached herewith is Appellants' Brief on Appeal, pursuant to 37 CFR §41.20(b)(2). This is an appeal from the decision of the Examiner finally rejecting claims 1-7 and 12-18 in the Office Action issued May 19, 2010.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

(1) REAL PARTY IN INTEREST

The application is assigned of record to Kuraray Europe GmbH, who is the real party in interest herein. The assignment is recorded at Reel 019078/Frame 0453.

(2) RELATED APPEALS AND INTERFERENCES

Appellants, their legal representative and the assignee are not aware of any related appeals or interferences which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the instant appeal.

(3) STATUS OF THE CLAIMS

Claims rejected: 1-7 and 12-18;

Claims allowed: None;

Claims canceled: 8-11;

Claims withdrawn: None;

Claims objected to: None;

Claims on Appeal: 1-7 and 12-18. A copy of the claims on appeal is provided in the attached Claim Appendix.

(4) STATUS OF AMENDMENTS AFTER FINAL

Subsequent to the Final Office Action issued May 19, 2010, appellants have not filed any amendments under 37 CFR 1.116.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

The claimed subject matter is directed to a process, specifically a process for coextrusion of at least two polymer melt streams of different composition to produce a film exhibiting a tinted strip. The film is to be suitable for use as an intermediate layer in laminated glazing. See paragraphs [009] and [017] of appellants' specification. The process comprises: (a) melting of a polymer mass; (b) separating the melt into at least two melt streams; (c) mixing of additives into at least one melt stream; and (d) combining the melt streams with coextrusion in one or several extrusion dies. In the claimed subject matter the polymer mass is a mass containing polyvinyl butyral. This mass is melted and divided into a main stream and a subsidiary stream, and the additives are pigments that are added to the subsidiary stream. See paragraphs [009] and [017] of appellants' specification. The main

stream and subsidiary stream are coextruded to form a film exhibiting a tinted strip, and this film is suitable for use as an intermediate layer in laminated glazing. See paragraph [017] of appellants' specification.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejections on Appeal are:

(1) whether claims 1, 2, 6, 7, and 9 are obvious under 35 USC 103(a) in view of Knaus (US 5,190,706) and Esposito et al. (US 4,316,868);

(2) whether claim 3 is obvious under 35 USC 103(a) in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), and Schuchardt (US 2002/0067656);

(3) whether claims 4, 5, 14 and 16 are obvious under 35 USC 103(a) in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), and Postavnichev et al. (US 4,096,069);

(4) whether claims 12-13 are obvious under 35 USC 103(a) in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), and Striegel (2002);

(5) whether claims 15 and 17 are obvious under 35 USC 103(a) in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), Chung (2000), and Postavnichev et al. (US 4,096,069);

(6) whether claim 18 is obvious under 35 USC 103(a) in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), Schuchardt (US 2002/0067656), Chung (2000), and Postavnichev et al. (US 4,096,069);

(7) whether claims 1, 6, and 7 are obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868) and Knaus (US 5,190,706);

(8) whether claims 2-3 are obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and Schuchardt (US 2002/0067656);

(9) whether claims 4-5 and 14 are obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and Postavnichev et al. (US 4,096,069);

(10) whether claims 12-13 are obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and the article by Striegel (2002);

(11) whether claims 15 and 17 are obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), Chung (2000), and Postavnichev et al. (US

4,096,069); and

(12) whether claim 18 is obvious under 35 USC 103(a) in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), Schuchardt (US 2002/0067656), Chung (2000), and Postavnichev et al. (US 4,096,069).

(7) APPELLANTS' ARGUMENTS

I. Rejection under 35 USC 103(a) in view of Knaus and Esposito et al.

Claims 1, 2, 6, 7, and 9 are rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706) and Esposito et al. (US 4,316,868). See pages 2-3 and 6 of the Final Office Action of May 19, 2010.

Knaus (US '706) discloses a process for extrusion of heat-plastified foamable gels of a thermoplastic resin or resins containing blowing agents. In the process two melt streams are combined and simultaneously extruded through the same orifice of a die into a zone of lower pressure where the foamable gels are expanded into a foam, i.e. a cellular body. See column 2, lines 38-44, and column 5, lines 15-29.

See, for example, Figure 3, wherein admixtures, in the form of gels, are fed into die 30a where they are combined and extruded through die orifice 32a into a zone of lower pressure, such as the atmosphere, where the gels expand to form a cellular body. Passages 34a and 34b communicate with the die 30a and deliver the admixtures from extruders 11a and 11b (See Figure 1) to die 30a. A flow of extrudate flows past a spider 38 and around die mandrel 39 allowing a tubular extrudate to flow out of die orifice 32a. As shown in Figures 4A and 4B, this tubular extrudate 80 has a stripe 82 of foam on its surface as a result of the gel from passage 34b. See column 5, lines 15-48.

See also Figure 5 of Knaus (US '706). In this embodiment, a portion of the primary flow 51 is diverted into a passage 53 to form a secondary flow 52. Additives can be added to the primary flow 51 and secondary flow 52 via additive flows 64 and 58, respectively. The combined primary flow 51/additive flow 64 flows through mixing elements 61a, whereas the combined secondary flow 52/additive flow 58 flows through mixing elements 61b. The two resultant streams, i.e., primary flow admixture 70 and secondary flow admixture 69, are then recombined in passage 63. These two admixtures flow together, without substantial mixing,

into die passage 34a (see Figure 3). The flows are then extruded through die orifice 32a into a zone of lower pressure, and the admixture gels expand to form a cellular body.

Knaus (US '706) does not disclose a process involving a polymer mass containing polyvinyl butyral. Moreover, since the material formed by the extrusion process of Knaus (US '706) is a foam, the material is not a film that is suitable for use as an intermediate layer in laminated glazing.

In the rejection, it is argued that the recitation in appellants' claim 1 "suitable for use as an intermediate layer in laminated glazing" has no patentable weight. Appellants disagree. The recited feature describes more than an intended use. It is part of the body of the claim, not the preamble, and thus clearly recites a feature that most be considered in assessing patentability. A description of films suitable for use as an intermediate layer in laminated glazing is provided in paragraph [019] of appellants' specification. A foam material as produced by the process of Knaus (US '706) would not be suitable for use as an intermediate layer in laminated glazing, and the rejection presents no rationale as to why such a foamed material could be suitable use as an intermediate layer in laminated glazing.

Esposito et al. (US '868) disclose a process for extrusion of a pellucid or transparent sheet of thermoplastic polymer wherein the sheet has a gradient color band incorporated therein. The process can be used to produce a polyvinyl butyral interlayer for use in automobile windshields. See column 1, lines 27-31 and column 2, lines 22-25.

The process of Esposito et al. involves extruding a sheet through a slit die orifice. See, for example, Figures 2-3 and reference numeral 9. Polymer melt is brought to the slit die orifice via manifold 6 and extrusion passage 7. In addition, positioned within manifold 6 is a torpedo-shaped probe 1. The axis of the probe is parallel to the slit die orifice. The probe is provided with a wedge-shaped extrusion orifice extending parallel to the probe axis for less than half the width of extrusion passage 7.

During extrusion, a main flow of molten thermoplastic polymer is fed to the manifold and a colored secondary flow of the same polymer is simultaneously fed to the probe. The main polymer, as it passes by the wedge-shaped orifice in the probe, flows above and below the probe in streams that are substantially parallel and in the direction of extrusion. This results in a layer of colored polymer (10), discharged from the wedge-shaped orifice of the probe, being encapsulated in the main flow of molten flow of polymer. As the combined

flows pass through the slit die orifice, a sheet with a gradient color band is produced.

In the rejection, it is argued that it would be obvious to use PVB in the process of Knaus (US '706), in light of the disclosure of Esposito et al. (US '868). As noted above, the process of Knaus (US '760) is directed to a process for extruding foamable thermoplastic resin containing blowing agents. See, for example, the description in the Field of Invention at column 1, lines 10-16 and the Summary of the Invention at column 12, lines 28-37. The extrusion die used be Knaus (US '760) has a annular die orifice 32 in which is positioned a spider nose 37, a spider 38, and a mandrel 39. During the extrusion, extruded material, i.e., the combined polymer melts, "flows past spider nose 37, forming a tubular flow of extrudate which flows past spider 38 and around die mandrel 39." See column 5, lines 20-34 and Figure 3. The resultant extrudate forms a tube 80 as it exits 32a and expands to 1 to 4 times the annular die orifice.

Thus, the annular shaped die of the Knaus process permits the extrusion of a tube of foamable thermoplastic which, since it is extruded into a zone of lower pressure, can freely expand to form a larger diameter tube of foamed material. The extrusion process of Esposito et al. (US '868) is very different in that it extrudes thermoplastic material in the shape of a sheet, rather than a tube, and also is not directed to the extrusion of foamable materials, but is instead directed to the extrusion of transparent materials.

Even if PVB was used in the process of Knaus (US '706), the resultant product would still be a foamed material, and not a film suitable use as an intermediate layer in laminated glazing. To modify the process of Knaus (US '706) so as to arrive at a non-foamed material would eliminate the purpose of the disclosed process. No suggestion is provided by either Knaus (US '706) or Esposito et al. (US '868) to eliminate the functionality of the Knaus (US '706) process.

One of ordinary skill in the art would not look to Esposito et al.'s (US '868) process of extruding transparent materials in sheet form through a slit die in order to modify the Knaus's (US '760) process of extruding tubes of foamable thermoplastic materials through an annular die.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosure of Esposito et al. (US '868), fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

II. Rejection of Claim 6 under 35 USC 103(a) in view of Knaus and Esposito et al.

As noted above, appellants' claim 6 is included in the rejection under 35 USC 103(a) in view of Knaus (US 5,190,706) and Esposito et al. (US 4,316,868).

In the rejection, it is acknowledged that Knaus (US '706) does not disclose extruding a melt stream through an extrusion die with a wedge-shaped or torpedo-shaped partial area. However, it is argued that it would be obvious to modify the process of Knaus (US '706) so as "to extrude at least one of Knaus's stream through an die with a wedged-shaped or torpedo-shaped partial area" in light of the disclosure of Esposito et al. (US '868). See the bottom of page 3 of the May 19, 2010 Office Action. Appellants' disagree.

As noted above, the process of Knaus (US '760) is directed to a process for extruding foamable thermoplastic resin containing blowing agents, and the extrudate is in the form of a tube, not a sheet as in the case of Esposito et al. (US '868). After exiting the die 32a, Knaus's tubular extrudate expands to 1 to 4 times the annular die orifice.

The rejection presents no rationale as to how one skilled in the art would modify a tubular die so as to incorporate a wedged-shaped or torpedo-shaped probe designed for use with a flat extrusion die, as disclosed by Esposito et al. (US '868). Furthermore, if one skilled in the art wished to modify the size of the strip in the extrudate of Knaus one would simply modify the relative flow amounts (see discussion of slide plate 55 and fixed plate 56 at column 6, lines 1-16) or change the size of orifice 42.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosure of Esposito et al. (US '868), fails to render obvious appellants' claimed invention as recited in claim 6. Reversal of the rejection is respectfully requested.

III. Rejection under 35 USC 103(a) in view of Knaus, Esposito et al. and Schuchardt

Claim 3 is rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US '868), and Schuchardt (US 2002/0067656). This rejection is respectfully traversed.

The disclosures of Knaus (US '706) and Esposito et al. (US '868) are discussed

above. Schuchardt (US '656) disclose a dynamic mixer comprising at least one housing with two or more inlets for the mixing components, an outlet, a shaft with screw threads and a drive means for the rotation of the shaft. Within the housing, the mixer has a mixing zone in which the internal wall of the housing is provided with grooves that are oppositely directed from the screw threads on the shaft.

In the rejection, it is argued that it would be obvious to use the dynamic mixer of Schuchardt (US '656) in place of the static mixers of Knaus (US '706). See mixing elements 61a and 61b in Figure 5.

The disclosure of Schuchardt (US '656) does not overcome the deficiencies in the combined disclosures of Knaus (US '706) and Esposito et al. (US '868) discussed above. Schuchardt (US '656) does not provide any suggestion of modifying the process of Knaus (US '706) so as to extrude a polymer mass containing polyvinyl butyral to provide a film exhibiting a tinted strip that is suitable for use as an intermediate layer in laminated glazing.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosures of Esposito et al. (US '868) and/or Schuchardt (US '656), fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

IV. Rejection under 35 USC 103(a) in view of Knaus, Esposito et al. and Postavnichev et al.

Claims 4, 5, 14 and 16 are rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US '868), and Postavnichev et al. (US 4,096,069). This rejection is respectfully traversed.

The disclosures of Knaus (US '706) and Esposito et al. (US '868) are discussed above. Postavnichev et al. (US '069) disclose a filter for polymer melts. The filter has a casing with an inlet opening, an outlet opening and a hollow mandrel that supports filter elements. These filter elements are axially fixed by means of clamping flanges, and each element consists of a spacer plate located between filtering baffles. See, e.g., column 6, lines 8-30 and Figure 1.

In the rejection, it is argued that it would be obvious to use the filters of Postavnichev et al. (US '069) in the system of Knaus (US '706).

However, the disclosure of Postavnichev et al. (US '069) does not overcome the deficiencies in the combined disclosures of Knaus (US '706) and Esposito et al. (US '868) discussed above. Postavnichev et al. (US '069) do not provide any suggestion of modifying the process of Knaus (US '706) so as to extrude a polymer mass containing polyvinyl butyral to provide a film exhibiting a tinted strip that is suitable for use as an intermediate layer in laminated glazing.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosures of Esposito et al. (US '868) and/or Postavnichev et al. (US '069), fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

V. Rejection under 35 USC 103(a) in view of Knaus, Esposito et al., and Striegel

Claims 12 and 13 are rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US 4,316,868), and the article by Striegel. This rejection is respectfully traversed.

The disclosures of Knaus (US '706) and Esposito et al. (US '868) are discussed above. Appellants' claims 12 and 13 recite, respectively, that the polymer mass has an acetylation of 50 – 95% with a residual PVOH content of 25 -5%, and a degree of acetylation of 65 – 85% with a residual PVOH content of 25 -5%. In the rejection, it is acknowledge that Esposito et al. (US '868) do not disclose the degree of acetylation of PVB. As noted above, Knaus (US '706) does not make any disclosure regarding PVB.

The rejection argues that acetylation is a result effective variable with regards to crosslinking and hydrophobicity, and thus it would be optimize the degree of acetylation. However, the rejection provides no rationale as to why one optimizing acetylation for purposes of crosslinking and hydrophobicity would arrive at the degree of acetylation recited in appellants' claims 12 and 13.

The rejection relies on the disclosure the article by Striegel with regards to PVOH content. The rejection argues that Striegel disclose that PVOH content of PVB is a result effective variable with regards to, for example, adhesion and crosslinking. Striegel describes a method for determining the distribution of vinyl alcohol in PVB.

The disclosure of Striegel does not overcome the deficiencies in the combined disclosures of Knaus (US '706) and Esposito et al. (US '868) discussed above. Striegel does not provide any suggestion of modifying the process of Knaus (US '706) so as to extrude a polymer mass containing polyvinyl butyral to provide a film exhibiting a tinted strip that is suitable for use as an intermediate layer in laminated glazing.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosure of Esposito et al. (US '868) and/or Striegel, fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

VI. Rejection under 35 USC 103(a) in view of Knaus, Esposito et al., Postavnichev et al., and Chung

Claims 15 and 17 are rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US '868), Postavnichev et al. (US 4,096,069), and the article by Chung. This rejection is respectfully traversed.

The disclosures of Knaus (US '706), Esposito et al. (US '868), and Postavnichev et al. (US '069) are discussed above. In the rejection it is acknowledged that Knaus does not disclose the use of a pump. In this regard, the rejection relies on the disclosure of Chung asserting that Chung teaches the use of a pump to force melt through a static mixer. However, Chung does not disclose the use of a separate pump but instead discloses using the extruder screw to force the melt through a static mixer. Specifically, at page 323 Chung discloses:

> The static mixer cannot pump the melt because it has no moving part. The melt must be pumped through the static mixer by the screw, and a pressure drop occurs through the static mixer.

Additionally, the disclosure of Chung does not overcome the deficiencies in the combined disclosures of Knaus (US '706), Esposito et al. (US '868), and Postavnichev et al. (US '069) discussed above. Chung does not provide any suggestion of modifying the process of Knaus (US '706) so as to extrude a polymer mass containing polyvinyl butyral to provide a film exhibiting a tinted strip that is suitable for use as an intermediate layer in laminated glazing.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosures of Esposito et al. (US '868), Postavnichev et al. (US '069), and/or Chung fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

VII. Rejection under 35 USC 103(a) in view of Knaus, Esposito et al., Postavnichev et al., Schuchardt, and Chung

Claim 18 is rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US '868), Postavnichev et al. (US 4,096,069), Schuchardt (US 2002/0067656) and the article by Chung. This rejection is respectfully traversed.

The disclosures of Knaus (US '706), Esposito et al. (US '868), and Postavnichev et al. (US '069) are discussed above. Schuchardt (US '656) disclose a dynamic mixer comprising at least one housing with two or more inlets for the mixing components, an outlet, a shaft with screw threads and a drive means for the rotation of the shaft. Within the housing, the mixer has a mixing zone in which the internal wall of the housing is provided with grooves that are oppositely directed from the screw threads on the shaft.

In the rejection it is acknowledged that Knaus does not disclose the use of a pump. In this regard, the rejection relies on the disclosure of Chung asserting that Chung teaches the use of a pump to force melt through a static mixer. However, Chung does not disclose the use of a separate pump but instead discloses using the extruder screw to force the melt through a static mixer. Specifically, at page 323 Chung discloses:

> The static mixer cannot pump the melt because it has no moving part. The melt must be pumped through the static mixer by the screw, and a pressure drop occurs through the static mixer.

The rejection further argues that at page 324 Chung disclose that commercially available dynamic mixers do not have pumping capability and have a higher pressure drop than static mixers. However, as noted above Chung does not disclose the use of a separate pump.

Additionally, the disclosures of Chung, Postavnichev et al. (US '069), and Schuchardt (US '656) do not overcome the deficiencies in the combined disclosures of Knaus (US '706) and Esposito et al. (US '868) discussed above. None of Chung, Postavnichev et al., and Schuchardt provides any suggestion of modifying the process of Knaus (US '706) so as to

extrude a polymer mass containing polyvinyl butyral to provide a film exhibiting a tinted strip that is suitable for use as an intermediate layer in laminated glazing.

In view of the above remarks, it is respectfully submitted that the disclosure of Knaus (US '706), taken alone or in view of the disclosures of Esposito et al. (US '868), Postavnichev et al. (US '069), Schuchardt (US '656) and/or Chung fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

VIII. Rejection under 35 USC 103(a) in view of Esposito et al. and Knaus

Claims 1, 6, and 7 are rejected under 35 USC 103(a) as being obvious in view of Esposito et al. (US 4,316,868) and Knaus (US 5,190,706). This rejection is respectfully traversed.

The disclosures of Esposito et al. (US '868) and Knaus (US '706) are discussed above. Esposito et al. (US '868) disclose a process involving a main flow of molten thermoplastic polymer fed to the manifold and a colored secondary flow of polymer, fed to a torpedo-shaped probe within the manifold. Esposito et al. (US '868) do not describe how these two flows are obtained or how they are to be separately treated.

The processes of Esposito et al. and Knaus are strikingly different. The Esposito et al. process involves the production of a transparent sheet, whereas the Knaus process involves the production of a tube of foamed material. The Esposito et al. process involves the use of a slit die orifice to make a sheet, whereas the Knaus process involves an annular die orifice for making a tube.

One of ordinary skill in the art would not look to the Knaus's (US '760) process of extruding tubes of foamable thermoplastic materials through an annular die in order to modify Esposito et al.'s (US '868) process of extruding transparent materials in sheet form through a slit die. Combining these two disparate extrusion processes involves impermissible hindsight reconstruction.

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868), taken alone or in view of the disclosure of Knaus (US '706), fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

IX. Rejection under 35 USC 103(a) in view of Esposito et al., Knaus, and Schuchardt

Claims 2-3 are rejected under 35 USC 103(a) as being obvious in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and Schuchardt (US 2002/0067656). This rejection is respectfully traversed.

The disclosures of Esposito et al. (US '868), Knaus (US '706), and Schuchardt (US '656) are discussed above. The disclosure of Schuchardt (US '656) does not overcome the deficiencies in the combination of Esposito et al. (US '868) and Knaus (US '706) discussed above. In particular, Schuchardt (US '656) does not provide any reason as to why one skilled in the art would look to the disclosure of Knaus (US '706) to modify the process of Esposito et al. (US '868).

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868), taken alone or in view of the disclosures of Knaus (US '706) and/or Schuchardt (US '656), fails to render obvious appellants' claimed invention. Withdrawal of the rejection is respectfully requested.

X. Rejection under 35 USC 103(a) in view of Esposito et al., Knaus, and Postavnichev et al.

Claims 4-5 and 14 are rejected under 35 USC 103(a) as being obvious in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and Postavnichev et al. (US 4,096,069). This rejection is respectfully traversed.

The disclosures of Esposito et al. (US '868), Knaus (US '706), and Postavnichev et al. (US '069) are discussed above. The disclosure of Postavnichev et al. (US '069) does not overcome the deficiencies in the combination of Esposito et al. (US '868) and Knaus (US '706) discussed above. In particular, Schuchardt (US '656) does not provide any reason as to why one skilled in the art would look to the disclosure of Knaus (US '706) to modify the process of Esposito et al. (US '868).

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868), taken alone or in view of the disclosures of Knaus (US '706) and/or Postavnichev et al. (US '069), fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

XI. Rejection under 35 USC 103(a) in view of Esposito et al., Knaus, and Striegel

Claims 12 and 13 are rejected under 35 USC 103(a) as being obvious in view of Esposito et al. (US 4,316,868), Knaus (US 5,190,706), and the article by Striegel. This rejection is respectfully traversed.

The disclosures of Esposito et al. (US '868), Knaus (US '706), and Striegel are discussed above. The disclosure of Striegel does not overcome the deficiencies in the combination of Esposito et al. (US '868) and Knaus (US '706) discussed above. In particular, Striegel does not provide any reason as to why one skilled in the art would look to the disclosure of Knaus (US '706) to modify the process of Esposito et al. (US '868).

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868), taken alone or in view of the disclosures of Knaus (US '706) and/or Striegel, fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

XII. Rejection under 35 USC 103(a) in view of Esposito et al., Knaus, Postavnichev et al., and Chung

Claims 15 and 17 are rejected under 35 USC 103(a) as being obvious in view of Knaus (US 5,190,706), Esposito et al. (US '868), Postavnichev et al. (US 4,096,069), and the article by Chung. This rejection is respectfully traversed.

The disclosures of Knaus (US '706), Esposito et al. (US '868), Postavnichev et al. (US '069) and Chung are discussed above. The rejection asserts that Chung teaches the use of a pump to force melt through a static mixer. However, Chung does not disclose the use of a separate pump but instead discloses using the extruder screw to force the melt through a static mixer. Specifically, at page 323 Chung discloses:

> The static mixer cannot pump the melt because it has no moving part. The melt must be pumped through the static mixer by the screw, and a pressure drop occurs through the static mixer.

Additionally, the disclosure of Chung does not overcome the deficiencies in the combined disclosures of Esposito et al. (US '868), Knaus (US '706), and Postavnichev et al. (US '069) discussed above. In particular, Chung does not provide any reason as to why one skilled in the art would look to the disclosure of Knaus (US '706) to modify the process of

Esposito et al. (US '868).

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868), taken alone or in view of the disclosures of Knaus (US '706), Postavnichev et al. (US '069), and/or Chung fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

XIII. Rejection under 35 USC 103(a) in view of Esposito et al., Knaus, Postavnichev et al., Schuchardt, and Chung

Claim 18 is rejected under 35 USC 103(a) as being obvious in view of Esposito et al. (US '868), Knaus (US 5,190,706), Postavnichev et al. (US 4,096,069), Schuchardt (US 2002/0067656) and the article by Chung. This rejection is respectfully traversed.

The disclosures of Knaus (US '706), Esposito et al. (US '868), and Postavnichev et al. (US '069), Schuchardt (US '656), and Chung are discussed above.

In the rejection it is acknowledged that Knaus does not disclose the use of a pump. In this regard, the rejection relies on the disclosure of Chung asserting that Chung teaches the use of a pump to force melt through a static mixer. However, Chung does not disclose the use of a separate pump but instead discloses using the extruder screw to force the melt through a static mixer. Specifically, at page 323 Chung discloses:

> The static mixer cannot pump the melt because it has no moving part. The melt must be pumped through the static mixer by the screw, and a pressure drop occurs through the static mixer.

The rejection further argues that at page 324 Chung disclose that commercially available dynamic mixers do not have pumping capability and have a higher pressure drop than static mixers. However, as noted above Chung does not disclose the use of a separate pump.

Additionally, the disclosures of Chung, Postavnichev et al. (US '069), and Schuchardt (US '656) do not overcome the deficiencies in the combined disclosures of Esposito et al. (US '868) and Knaus (US '706) discussed above. None of Chung, Postavnichev et al., and Schuchardt provide any reason as to why one skilled in the art would look to the disclosure of Knaus (US '706) to modify the process of Esposito et al. (US '868).

In view of the above remarks, it is respectfully submitted that the disclosure of Esposito et al. (US '868) taken alone or in view of the disclosures of Knaus (US '706),

Postavnichev et al. (US '069), Schuchardt (US '656) and/or Chung fails to render obvious appellants' claimed invention. Reversal of the rejection is respectfully requested.

(8) CONCLUSION

For all of the above reasons, it is urged that the decision of the Examiner finally rejecting claims 1-7 and 12-18, on appeal, is in error and should be reversed.

Respectfully submitted,

/Brion P. Heaney/

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Brion P. Heaney
Registration No. 32,542

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CLAIMS APPENDIX

1. (Previously Presented): A process for coextrusion of at least two polymer melt streams of different composition to produce a film exhibiting a tinted strip suitable for use as an intermediate layer in laminated glazing, said process comprising

a) melting of a polymer mass
b) separating the melt into at least two melt streams
c) mixing of additives into at least one melt stream and
d) combining the melt streams with coextrusion in one or several extrusion dies,

wherein, in process step a) said polymer mass is a mass containing polyvinyl butyral, in process step b) said mass is melted and divided into a main stream and a subsidiary stream, in process step c) said additives are pigments which are added to the subsidiary stream, and in process step d) said main stream and said subsidiary stream are coextruded to form a film exhibiting a tinted strip, said film being suitable for use as an intermediate layer in laminated glazing.

2. (Previously Presented): A process according to claim 1, wherein at least one melt stream is passed through a dynamic or static mixing section before and/or after process step c).

3. (Previously Presented): A process according to claim 1, wherein process step c) takes place in a dynamic mixer.

4. (Previously Presented): A process according to claim 1, wherein the melt is passed through a melt filter between process step a) and b).

5. (Previously Presented): A process according to claim 1, wherein, after process step b), at least one melt stream is passed through a melt filter before and/or after the corresponding process step c).

6. (Previously Presented): A process according claim 1, wherein at least one melt stream is extruded in process step d) through an extrusion die with a wedge-shaped or torpedo-shaped partial area.

7. (Previously Presented): A process according to claim 1, wherein the additive in process step c) contains organic or inorganic pigments, carbon black, and/or titanium dioxide, and optionally additionally silicic acid and/or UV stabilisers.

8. (Cancelled):

9 (Cancelled):

10. (Cancelled):

11. (Cancelled):

12. (Previously Presented): A process according to claim 1, wherein the polymer mass is based on (a) polyvinyl butyral having a degree of acetylation of 50 – 95%, and a residual PVOH content of 25 -5%.

13. (Previously Presented): A process according to claim 1, wherein the polymer mass is based on (a) polyvinyl butyral having a degree of acetylation of 65 – 85%, and a residual PVOH content of 25 -5%.

14. (Previously Presented): A process according to claim 1, wherein

after process step b) and before process step d) said at least one stream to which additives are to be added is passed through a dynamic or static mixing section before and/or after the addition of additives in process step c); and

after process step b), said at least one stream to which additives are added is passed through a melt filter before and/or after the corresponding process step c).

15. (Previously Presented): A process according to claim 1, wherein

after process step b) and before process step d) said at least one stream to which additives are to be added is passed through a pump before the addition of additives in process step c), and then passed through a dynamic or static mixing section after the addition of additives in process step c); and

after process step b), the at least one stream to which additives are not added is passed through a melt filter before process step d).

16. (Previously Presented): A process according to claim 1, wherein

before process step b) the melt is passed through a pump and a melt filter; and

after process step c) and before process step d) said at least one stream to which additives are added is passed through a dynamic or static mixing section after the addition of additives.

17. (Previously Presented): A process according to claim 1, wherein

after process step c) and before process step d) said at least one stream to which additives are added is passed through static mixing section after the addition of additives, and then is passed through a pump, and then is passed through a dynamic or static mixing section before process step d); and

after process step b), at least one stream to which additives are not added is passed through a pump and through a melt filter before process step d).

18. (Previously Presented): A process according to claim 1, wherein

after process step c) and before process step d) said at least one stream to which additives are to be added is passed through a pump, a melt filter, and a dynamic mixing section wherein the additives are added before the dynamic mixer or directly into the dynamic mixer, and then passed through a further pump before process step d); and

after process step b), at least one stream to which additives are not added is passed through a pump and through a melt filter before process step d).

EVIDENCE APPENDIX

Not Applicable.

RELATED PROCEEDINGS APPENDIX

Not Applicable.